

Montana State Library

This cover sheet created by Internet Archive for formatting.



Pictured above is the President's Christmas Tree. The 99-foot Engelmann spruce from Kootenai National Forest was chosen to stand on the White House grounds in Washington, D. C., during December as the nation's community Christmas tree. The job of felling the tree, hauling it to Libby and loading it onto two railway flatcars was done as a public service by J. Neils Lumber Co., in big November. The Great Northern Railway, and two other railroads, carried the tree free. The tree was lighted by a touch of a button by President Eisenhower just before Christmas at the annual Christmas Pageant for Peace, sponsored by the U. S. Chamber of Commerce, Lincoln Council is one of the foremost producers of Christmas trees in the U. S. (Photo courtesy Libby Chamber of Commerce).

Oil Again State's Most Valuable Mineral In 1958

Production of Montana's most valuable mineral, oil, increased 12 per cent in 1958, according to figures released by the U. S. Geological Survey. Montana produced 1,000,000 barrels of oil in 1958, compared with 876,000 barrels in 1957. The increase was due to a combination of factors, including a rise in the number of wells producing oil and an increase in the output of existing wells. The state's oil production is primarily concentrated in the northern and central regions, with the largest fields located in the northern part of the state. The oil is primarily used for heating and power generation, with a smaller portion being refined for transportation fuels.

Base Metals Down

Montana's production of base metals declined in 1958, with the state producing 1,000,000 pounds of copper, compared with 1,200,000 pounds in 1957. The decline was primarily due to a decrease in the output of the state's largest copper producer, the Anaconda Copper Mining Co. The state's other major base metal producers, including the Butte and Great Northern Mining Co., also reported a decline in output. Despite the decline in base metal production, Montana's oil production remained the state's most valuable mineral.

During the year, the value of copper production in Montana declined by 12 per cent. In 1958, total production of base metals in the state was valued at \$1,000,000, compared with \$1,200,000 in 1957. The decline in the value of base metal production was primarily due to a decrease in the output of the state's largest copper producer, the Anaconda Copper Mining Co. The state's other major base metal producers, including the Butte and Great Northern Mining Co., also reported a decline in output.

Review by Commodities

ALUMINUM: Production below capacity. Anaconda Aluminum Co. plant at Colma, La. is depended on imported Canadian alumina that is supplied under contract to Kaiser Aluminum and Reynolds Metals Companies. The company continues development and research work on the technological and economic problem of using Idaho clays as an alumina source at its million pilot plant at its Anaconda smelter.

BARITE: Production by Baroid Sales Division, National Lead Co., was about half the 1957 total. Crude mine output was 200,000 at the Greenough (Missoula County) plant for use in rotary-drilling mud.

CEMENT: Both quantity and value increased over 1957. Ideal Cement Co. of Tridert was the only producer.

CHROMITE: Concentrates (38%) from the oxide purchased for government stockpile from American Chrome Co., Montreal, that Nye reached over 100,000 tons. Total 1,200,000 tons called for under the purchase contract. The company is negotiating a possible joint venture with the U. S. Geological Survey for the development of the Montana chromite deposits. The Montana chromite deposits are located in the southern part of the state, near the border with Idaho.

CLAYS: Continued output of into the state. The state's largest clay producer, the Pacific Southwest Portland Cement Co., is located in the southern part of the state. The company produces a variety of clays, including fire clays, which are used in the production of Portland cement. The state's other major clay producers include the Montana Clay Co. and the Montana Portland Cement Co.

COAL: Production of coal in Montana increased in 1958, with the state producing 1,000,000 tons of coal, compared with 876,000 tons in 1957. The increase was due to a combination of factors, including a rise in the number of wells producing coal and an increase in the output of existing wells.

Montana's production of coal increased 12 per cent in 1958, according to figures released by the U. S. Geological Survey. Montana produced 1,000,000 tons of coal in 1958, compared with 876,000 tons in 1957. The increase was due to a combination of factors, including a rise in the number of wells producing coal and an increase in the output of existing wells.

COPPER: Butte and Anaconda Copper Mining Co. reported a decline in output in 1958, with the company producing 1,000,000 pounds of copper, compared with 1,200,000 pounds in 1957. The decline was primarily due to a decrease in the output of the state's largest copper producer, the Anaconda Copper Mining Co. The state's other major copper producers, including the Butte and Great Northern Mining Co., also reported a decline in output.

FLUORSPAR: A decline in output was reported by the state's largest fluor spar producer, the Butte and Anaconda Fluor Spar Co. The company produced 1,000,000 pounds of fluor spar in 1958, compared with 1,200,000 pounds in 1957. The decline was primarily due to a decrease in the output of the state's largest fluor spar producer, the Butte and Anaconda Fluor Spar Co.

GOLD: The 32,000 ounces produced during 1958 represented a all-time low in the reported history of gold production in Montana. The decrease was attributed to a decline in the number of operating gold mines, and to a 31 per cent increase from 1957 in the number of operating gold mines. The number of operating gold mines declined from 1957 to 1958, and the output of the state's largest gold producer, the Butte and Anaconda Gold Mining Co., also declined. The state's other major gold producers, including the Butte and Great Northern Mining Co., also reported a decline in output.

GYPSUM: Tonnage and value were slightly above 1957. Production was from the Shoshone mine of U. S. Gypsum Co. and the Hanover mine of Ideal Cement, both in Fergus County. The local use pattern remained unchanged: plaster, wallboard, bath and cement; only a small quantity was marketed for agricultural purposes.

IRON ORE: Development was highlighted by extensive diamond- and rotary-drilling programs. Minerals Engineering Co. sent 4,000 tons of ore from its Carter Creek deposit near Dillon for testing (see INDUSTRIAL HORIZONS, September-October, 1958). Ralls & Harris Bros. shipped 8,000 long tons of magnetite ore to Ideal Cement from its Iron Cross Mine near Townsend. Young-Montana Corp. made no shipments during the year from Stanford.

LEAD: A sharp decline and lowest production since 1946 was reported. Nearly all is produced in Butte.

LIME: Output was 15 per cent higher than in 1957. Limestone was calcined to quicklime by the Anaconda Company in Anaconda. Elston Lime Co. produced a total of 1,000,000 tons of quicklime.

MANGANESE: Few shipments were received under the Federal low-grade manganese purchase program (minimum Mn content of 15 per cent at Butte and 20 per cent at Polk). Output of 89,000 tons of manganese ore was reported during 1958. The Anaconda Manganese Co. is the state's largest manganese producer. The company is currently negotiating a joint venture with the U. S. Geological Survey for the development of the Montana manganese deposits. The Montana manganese deposits are located in the southern part of the state, near the border with Idaho.

PHOSPHATE ROCK: Production resumed an upward trend after experiencing a slight reversal in 1957. There were four major producers: Montana Phosphate Products Co., a subsidiary of Consolidated Mining & Smelting Co. Ltd. of Canada, shipped crude rock from its mine near Garrison to Trail, B.C., for manufacturing into fertilizer; Victor Chemical Works converted Beaverhead County phosphate rock into elemental phosphorus at its Silver Bow reduction plant; J. R. Simplot Co. shipped phosphate rock from its mine in the Centennial Mountains east of Monida to its Pocatello fertilizer plant; Anaconda Co. continued to produce triple superphosphate fertilizer at the Anaconda reduction works. In addition, Anaconda Co. began operating its new \$1.5 million ammonium phosphate fertilizer plant at Anaconda with ammonia from Utah.

PHOSPHATE ROCK: Production resumed an upward trend after experiencing a slight reversal in 1957. There were four major producers: Montana Phosphate Products Co., a subsidiary of Consolidated Mining & Smelting Co. Ltd. of Canada, shipped crude rock from its mine near Garrison to Trail, B.C., for manufacturing into fertilizer; Victor Chemical Works converted Beaverhead County phosphate rock into elemental phosphorus at its Silver Bow reduction plant; J. R. Simplot Co. shipped phosphate rock from its mine in the Centennial Mountains east of Monida to its Pocatello fertilizer plant; Anaconda Co. continued to produce triple superphosphate fertilizer at the Anaconda reduction works. In addition, Anaconda Co. began operating its new \$1.5 million ammonium phosphate fertilizer plant at Anaconda with ammonia from Utah.

Petroleum Production Up

PETROLEUM and NATURAL GAS: Preliminary figures indicate recovery of crude oil advanced to 28.2 million barrels in 1958, (876.1 million). Natural gas output was 33.6 billion cubic feet, worth \$2.6 million. Increased fuel requirements and stronger demand for asphalt for highway construction caused Carter Oil Co. to expand its refinery at Billings. Increased production and proved reserves were the reason capacity of the Butte pipeline from Billings to Spokane was raised to 65,000 barrels per day.

PHOSPHATE ROCK: Production resumed an upward trend after experiencing a slight reversal in 1957. There were four major producers: Montana Phosphate Products Co., a subsidiary of Consolidated Mining & Smelting Co. Ltd. of Canada, shipped crude rock from its mine near Garrison to Trail, B.C., for manufacturing into fertilizer; Victor Chemical Works converted Beaverhead County phosphate rock into elemental phosphorus at its Silver Bow reduction plant; J. R. Simplot Co. shipped phosphate rock from its mine in the Centennial Mountains east of Monida to its Pocatello fertilizer plant; Anaconda Co. continued to produce triple superphosphate fertilizer at the Anaconda reduction works. In addition, Anaconda Co. began operating its new \$1.5 million ammonium phosphate fertilizer plant at Anaconda with ammonia from Utah.

PYRITES: There was an increase in quantity and value of pyrites converted to sulfuric acid by the Anaconda Co. for use at its chemical fertilizer and metallurgical works.

SAND and GRAVEL: Continued strong demand resulted in increased production to 11.5 million tons (890 million cu ft). Heavy construction contributed to the advance.

SILVER: A decline of 89 per cent below 1957 was reported. Nearly 91 per cent of the state's total was produced at the Butte mill.

STONE: Production of dimension stone level at 1957 level. The state's largest stone producer, the Montana Stone Co., is located in the southern part of the state. The company produces a variety of stone, including granite, which is used in the construction of buildings and monuments. The state's other major stone producers include the Montana Stone Co. and the Montana Stone Co.

SULFUR: Recovery of sulfur from the Montana sulfur mine, St. Michaels, Salton & Chemical Co., Billings, increased slightly. (Continued on next page)

TALC: Tri-State Minerals Co., ground tale at its Barratts mill and also in Ogden, Utah. Sierra Tale & Clay Co., shipped output from its Ennis Mine to Grand Island, Neb., for grinding. American Chemet, a subsidiary of Columbia Paint Co., continued to ship tale and zinc oxide from its East Helena plant. There was a substantial increase in the quantity and value of Montana tale mined in 1958. Active deposits are located in Beaverhead and Madison Counties.

URANIUM: A small tonnage was recovered from the Pryor Mountains during 1958, and exploration continued in other parts of the state. Production was shipped to the AFC buying station at Riverton, Wyo.

VERMICULITE: Output was slightly less than in 1957.

ZINC: Output decreased 37 per cent compared with 1957. Silver Bow County supplied 79 per cent of the total.

Other Montana minerals produced or explored in 1958 included: Antimony, arsenic, asbestos, beryllium, bismuth, cadmium, columbium, corundum, gem stones, graphite, molybdenum, nickel, platinum, pumicite, sodium sulphate, titanium, vanadium and zirconium.

Montana Barley To Be Used In Malting

Montana barley, when grown in suitable areas east of the Continental Divide, has been classified as acceptable for malting and brewing by the Malting Barley Improvement Association, a trade association in Milwaukee. Four years of experimental tests on the growing and malting of Montana Betzes barley have been generally satisfactory (see story on original tests in INDUSTRIAL HORIZONS, April, 1957).

Five Million Acres Grown

Malting barley is a new crop in Montana, according to the Association. Although Montana is the nation's third largest barley producing state, none has been acceptable for malting until this time. The successful variety, Betzes, was introduced from Poland in 1938 by the U. S. Department of Agriculture and was released by the Montana and Idaho Agricultural Experiment Stations in 1957. Over five million bushels of Betzes were produced in 1958 in the Triangle area of Montana and other irrigated areas of the state.

The major requirements that must be met if barley is to be used for malting are: pure lots of an acceptable malting variety, high percentage of plump kernels, low percentage of skinned and broken kernels, low protein content, high percentage germination, and bright color.

High protein content and excessive amount of skinned and broken kernels are likely to be major factors in determining the proportion of Montana Betzes that will enter malting channels. Proper fertilizer and irrigation practices will help to reduce protein content. Careful combining and handling procedures can effectively reduce the per cent of skinned and broken kernels.

Nearly all the 2.5 million bushels of Montana Betzes purchased for malting in 1958 is to be shipped to Eastern malting houses.

Windreel and Grain Blower Combine To Form New Industry

Another small business with growth potential for Montana.

Incorporation of the Montana Air-Reel Co., of Seehey on November 29, culminated several years of effort to find a local manufacturer for a Montana invention to serve regional agricultural markets.

The story goes like this:

Along about 1950, a Ruidyard farmer named Curt Phillips invented an attachment for combine harvesters to replace the old bit type reel, which is inefficient when used in short grain. Jet blasts of air on the air-reel force the grain toward the cutting bar and thence, into the combine. The air-reel meets an age-old problem of harvesting by preventing the loss which occurs at the cutter bar when cutting short grain.

(Continued at top of next column)



A view of the Montana Feed and Grain Blower, manufactured in Whitetail, Mont.

A total of 32,890 acres of mustard seed was harvested in Montana in 1958, with a production of 19.3 million pounds, according to the U. S. Agricultural Marketing Service. Montana again produced nearly all the country's domestic mustard (about the same amount is regularly imported from Canada). Most of the Montana production is raised in Toole, Glacier, Liberty, Pondera and Teton counties. Despite the large production, there is only one mustard-crushing plant in Montana—the Montana Vegetable Oil & Feed Co., in Great Falls, which crushes a small amount for feed. All the rest is shipped to Eastern crushing plants for the manufacture of edible mustard or feed. A new process for extracting mustard oil and protein from mustard seed has been developed by Prof. K. J. Goering of the Chemistry Department at Montana State College. A new company, Oil Seeds Products, Inc., has been formed to develop the process.

Windreel Proves P in Field

Actual performance records in the field show average savings of 1.5 bushels of wheat per acre, and two bushels of barley, according to Charles Bowman, Assistant Professor of Agricultural Engineering at Montana State College. Bowman became interested in the product after Phillips contacted the Endowment and Research Foundation at MSC for help in improving and marketing the product, especially emphasizing its performance in actual harvesting operations.

Finding the "wind-reel," as it was then called, a product with potential, the MSC people and the owners of the patent endeavored to find a manufacturer for the product. A midwestern manufacturer was found, but the search was continued for a manufacturer closer to the primary marketing area in the Great Plains.

At the same time, a small Montana manufacturer of another agricultural product was looking for other products to make and sell.

Grain Blower Made in Fine Building

The Truck Grain Blower Co., had been started in 1930 by G. E. and E. J. Schlechter of Whitetail to manufacture their device to blow grain into storage bins and box cars. An excellent 5,800 sq. ft. concrete building was built in Whitetail in 1941 and equipped with modern machine tools to manufacture the product. The firm was purchased in 1954 by Harold and Stella Barenz, and the office was moved to Seehey.

The new owners expanded markets to include materials-handling operations all over the country. The Blower, renamed the Montana Grain and Feed Blower, is now in regular use from Oregon to New York. Specialized uses include delivery of sawdust and other bedding materials into two-story broiler houses, handling of bulk salt, and elevating dry ingredients to the mixer in a dog-food factory in Brooklyn. Advantages of this blower over other materials-handling methods are straight-up delivery, non-separation of ingredients and almost complete lack of damage to pelleted feeds.

State Planning Board Arranges Meeting

Both parties—wind reel and truck grain blower—had contacted the State Planning Board about their problems. Acting in a liaison function, the State Planning Board sponsored a meeting in Helena on November 18. From this meeting arose the new Montana Air-Reel Company.

The owners emphasize several positive features of a semi-rural Montana location for their manufacturing operation:

1. Large quantities of surplus labor are available from October through May, when seasonal farming operations shut down.
2. Much of this labor is mechanically skilled and permanently resident.
3. There is good transportation and a major market within a few hundred miles.
4. Small towns make good places to live.

We wish this new firm good luck. It's another attempt to provide more employment opportunities in Montana by making a product for local and national markets. This is a small business that may grow into an important agricultural implement company.

FARM INCOME DECLINE SHOWS NEED FOR INDUSTRIAL DEVELOPMENT

Montana's total personal income continued to increase to a new high of \$1,236 million for 1957, with a per capita income of \$1,896, according to estimates by the U. S. Department of Commerce. This growth, however, was at a smaller rate than that for either the United States or the four other Rocky Mountain States.

The reason for Montana's relative lag in income growth lies largely in one sector of the state's economy: agriculture. Farm proprietors' income in 1957 was 12 per cent less than in 1947, and farm wages were down 24 per cent. In 1947, farm income accounted for approximately 31 per cent of Montana's total income; in 1957, the proportion was 16 per cent.

Each of the personal income are in-
cluded payments from all sources (before
taxes, interest, and royalties, proprietors'
income, profit, income and transfer
payments). Personal income is widely used
as a measure of business and economic

Agricultural Decline Permanent

everywhere analysis of the decline in the coal sector is contained in the "Montana Business Review," published by the Bureau of Business and Economic Research at Montana State University. An article by Maxine C. Johnson, "The Coal Industry with the Bureau," published in the *Journal* come in all probability of 1920, its post-World War I boom, and its source of total state

and the growth and expansion of the coal and lignite in Montana. The coal will come largely from the lignite and primary and secondary, and the leading industries such as the coal and iron. These are the industries that create the demand for the coal, and the growth of the coal and iron and other factors.

Lag in Basic Industries

CITY PLANNING AMENDMENTS TO BE SUBMITTED TO LEGISLATURE

Amendments designed to clarify the enabling legislation for City-County Planning Boards will be submitted to the 1959 Legislature by the Association of Montana Planning Boards, according to H. Cleveland Hall, president of the Association.

The proposed amendments will tie City/County Planning Boards closer to the governing bodies which create them: City Councils and Boards of County Commissioners. They were adopted at the Statewide City Planning Meeting held in Helena last October 25 by 58 persons representing 11 communities with City/County Planning Boards.

Amendments Meet Objections

Copies of the proposed amendments are available from the following Presidents of City-County Planning Boards:

CITY-COUNTY PLANNING BOARDS IN MONTANA		
Board	President	Address
1. Billings-Yellowstone	E. C. Nielsen	234 Lewis
2. Bozeman-Gallatin	H. D. Korslund	Box 113
3. Butte-Silver Bow	T. S. Veeney, Jr.	Box 427
4. Columbia Falls-Flathead	George A. Shay	Box 505
5. Glasgow-Valley	G. F. Kjelstrup	City Hall
6. Great Falls-Cascade	H. Cleveland Hall	Box 1744
7. Havre-Hill	Vance Murphy	1202 2nd St.
8. Helena-East Helena-Lewis & Clark	H. S. Dotson	Granite Bldg.
9. Kalispell-Flathead	Charles L. Hash	Box 686
10. Libby-Lincoln	Paul Evans	Libby
11. Livingston-Park	Richard A. Buelke	1218 W. Cambridge
12. Miles City-Custer	J. R. Porten	321 Main
13. Missoula-Missoula	A. R. Peterson	Box 49
14. Whitefish-Flathead	Henry Irwin	Whitefish

Copies also available from State Planning Board
Officers not yet elected; name listed is contact.

these activities are expanding faster, in some ways, than are basic industries like mining and manufacturing. How long can this imbalance continue?

Growth Must Come from Manufacturing

Second, it is likely that the bulk of expansion in Montana's basic industries will have to occur in manufacturing. Metal mining may well have reached its peak in 1955 and 1956, and petroleum production, while expanding, will not soon attain great importance.

"Thus," she concludes, "the need for an accelerated expansion in manufacturing activities, if Montana is to continue to grow and to prosper, is again demonstrated."

Organization of a new \$250,000 industry was announced in December by Treasure State Industries. The expanded shale plant will process gray shale into a prime ingredient for light-weight aggregate used in the rapidly growing pre-stressed and pre-cast concrete business. The bloating of the shale will be produced by a 7x120' rotary gas-fired kiln which will heat the raw shale to a temperature of 2100 °F. The expanded shale will be crushed and screened to the exact specifications of customers. The project was originally investigated as a potential industry by the Great Falls Chamber of Commerce, in conjunction with the Montana Bureau of Mines and Geology (see INDUSTRIAL HORIZONS, Sept., 1956).

MONTANA STATE PLANNING BOARD

Small-Angle X-Ray Scattering

Helena, Montana

None of the views or concerns appearing in this publication do not constitute an endorsement of the concern named or its products. Statements in this newsletter are not official policy unless official action is reported.

BULK RATE

U. S. Postage

PAID

Permit No. 83

State Library Extension Comm.
South Ave. & Millissex
Missoula, Montana

Montana State Library

This cover sheet created by Internet Archive for formatting.